What is claimed is:

1.   A method for diagnosing a disease state associated with oxidative stress in a subject, the method including the steps of:

5   - measuring the level of non-selenium glutathione peroxidase protein in a biological fluid or tissue obtained from the subject over time to detect an increase in the level of non-selenium glutathione peroxidase protein in the subject; and/or

- measuring the level of non-selenium glutathione peroxidase protein in a
10   biological fluid or tissue obtained from the subject and comparing the measured level of non-selenium glutathione peroxidase protein with a control level.

2.   The method of claim 1, wherein the method includes the steps of:

15   - comparing the level of non-selenium glutathione peroxidase protein present in a first biological fluid sample to the level of non-selenium glutathione peroxidase protein present in a second biological fluid sample, wherein the first fluid is a fluid from a subject suspected of suffering from an increase in oxidative stress and the second fluid is a fluid from a subject that
20   is not suffering from an increase in oxidative stress, wherein the first and second fluids are of the same fluid type, and wherein the non-selenium glutathione peroxidase protein is identified by an agent that specifically recognises the non-selenium glutathione peroxidase protein; and

- categorizing the first sample as likely to be indicative of the onset of the
25   disease state in the subject when the level of non-selenium glutathione peroxidase protein is found to be the higher in the first sample than in the second sample.

3.   The method of claim 2 wherein the subject is human.
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4.   The method of claim 3 wherein the biological fluid that is assayed is selected from the list consisting of serum, plasma, whole blood, cerebro spinal fluid, amniotic fluid, and synovial fluid.

5   5.   The method of claim 1 wherein the tissue that is assayed is epithelial, connective or muscle tissue.

6.   The method of claim 4 wherein the agent that specifically recognises the non-selenium glutathione peroxidase protein is an antibody specific for non-

10   selenium glutathione peroxidase.

7.   The method of claim 6 wherein the disease state associated with oxidative stress is a neurodegenerative disease.

15   8.   The method of claim 6 wherein the disease state associated with oxidative stress is Parkinson's disease.

9.   The method of claim 6 wherein the disease state associated with oxidative stress is Alzheimer's disease.

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10.   The method of claim 6 wherein the disease state associated with oxidative stress is Dementia.

11.   A method for detecting oxidative stress in a subject, the method including

25   the steps of:
   -    producing antibodies specific to at least one peptide fragment of non-selenium glutathione peroxidase protein, or derivative thereof,
   -    obtaining a putative non-selenium glutathione peroxidase protein containing biological sample from the subject,

30   -   contacting the biological sample with the antibodies under conditions for formation of an antibody: non-selenium glutathione peroxidase protein complex, and

- assaying for the formation of the antibody: non-selenium glutathione peroxidase protein complex to detect the presence and/or levels of non-selenium glutathione peroxidase protein.

5   12.   The method of claim 11 wherein the step of assaying for the formation of antibody: non-selenium glutathione peroxidase protein complex involves detecting the complex using a second revealing antibody.

13.   The method of claim 11 comprising the steps of binding specific anti-
10   peptide antibodies to a support; immunocapture of non-selenium glutathione peroxidase protein in a sample of biological material by the antibodies; and revealing of the immunocaptured non-selenium glutathione peroxidase protein by a second labelled anti-peptide antibody.

15   14.   An antibody, or fragment thereof, that binds to an oligopeptide that includes the sequence of SEQ ID NO:1 or a fragment of SEQ ID NO:1, or the sequence of SEQ ID NO:2 or a fragment of SEQ ID NO:2.